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Soviets Made Bomber Faster Than U. S. Did

**'Lead Time'
Of 5 Years
To 8 in U. S.**

**Reds May Have
More Than U. S.**

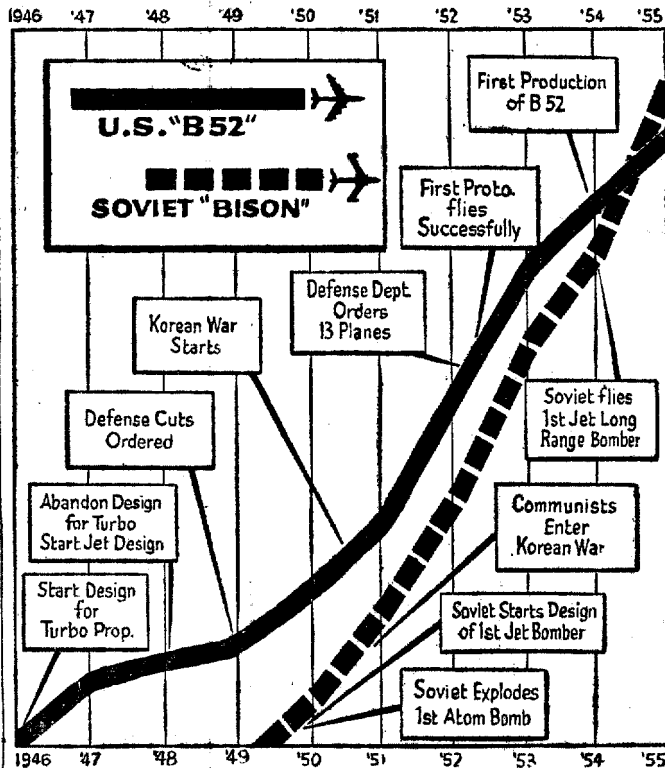
This is the second in a series of six articles based on a six-week survey by a team of New York Herald Tribune reporters documenting a serious situation in military aircraft production.

By Robert S. Bird
and Tom Lambert

An airplane begins as an idea. Design comes later. In the beginning, the plane is a rather shapeless concept pegged on demands for speed, altitude and range for projected missions.

Today's B-52, a 200-ton, swept-wing, eight-jet monster that streams along ten miles above continents and oceans at 650 miles an hour, began in such a way in 1945.

By January, 1946, this shadowy concept had crystallized in military minds, and a month later the (then) Army Air Force authorized several major engineers to submit proposals for an intercontinental bomber capable of carrying the new atomic bomb a distance of 6,000 miles or more to an enemy target. At that date, the airplane was not planned as jet-powered.



REDS OUTSTRIP UNITED STATES PRODUCING LONG-RANGE BOMBER—Chart, comparing the time-

table of development of the American B52 with that of

the Soviet Bison, shows that although the Russians

have not yet completed their design, they are believed to have

produced a prototype of their bomber in 1954.

The chart also shows that the U.S. B-52 was not

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he told reporters "And the progress show in Moscow on that day, was that this airplane has made Soviet officials stood by, dead-end, the prototype was put on par, as their own intercontinental jet bomber, the Bison, flew past."

Perhaps.

But forty-four days later—on May 1, 1954—the U. S. S. R. delivered a painful blow to American military confidence and

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To say that this is the greatest bomber in the world today is putting it very, very mildly,"

"a prototype model."

Perhaps.

Actually our Air Force is not certain if that Bison was a prototype or a production model.

But there is one incontrovertible fact.

The Soviets had turned out an intercontinental jet bomber capable of carrying nuclear bombs to our target cities, and had done it two years ahead of the date we had anticipated.

It now is believed that the U. S. S. R. designed, developed and flew their strategic bomber within a five-year lead-time period.

It took eight to nine years to get our first B-52.

This long lead time for the B-52, future backbone of the Strategic Air Command, imperils the now questionable air superiority of the United States, as military leaders have admitted. Even now, the Soviets almost surely have more intercontinental jet bombers than this country. The exact number of B-52s is secret, but some sources put the total at 110. The Soviets are estimated to have possibly 200 Bisons.

How much unnecessary lead time could have been saved on the B-52?

Boeing officials would not estimate specifically how many months or years might have been shaved from lead time on this bomber, but aircraft executives and some top Air Force people, talking with these Herald Tribune reporters, all said that Pentagon and Air Force indecision, red tape, inept programming and too-close supervision of manufacturing detail caused needless stretch-outs of lead time.

Life History Of B-52 Examined

An examination of the life history of the B-52 illustrates and underscores many of the industry's accusations. The bomber development cycle, expressed in time spans chosen by these reporters only for the purpose of illustrating various phases of the B-52 program, went as follows:

FIRST TIME SPAN (thirty-two to thirty-six months)—After thinking about a big bomber during 1945, the (then) Army Air Force invited aircraft companies to submit proposals for preliminary studies on such a plane. Boeing's proposal was accepted and the company was told in June, 1946, to go ahead with study and design work. The Army Air Force order, however, was down the wrong track, which, perhaps, it can be wholly blamed.

At the time, a bomber of a turbo-prop airplane, one powered by jet engines hooked to propellers, then the pure jet engine, as known today, was not regarded as a long-range power plant.

During that time span, however, both Boeing and the Air Force (which became a separate service in 1947) were studying the enticing new jets in a quiet sort of way, apparently without telling each other. Boeing even made some tentative designs of a big bomber powered by jets.

Change of Mind Kept Secret

SECOND TIME SPAN (approximately one week)—One day in October, 1948—two years and four months after telling Boeing to study and design a turbo-prop bomber—the Air Force had a surprise for the company. And Boeing had a surprise for the Air Force.

On that day, according to official Boeing accounts, company executives went to the Air Force's Air Materiel Command in Dayton, Ohio, to report on the turbo-prop bomber. They now were privately favoring the use of jet engines. Then came the Air Force surprise.

"In spite of previous indications," an Air Force colonel told Boeing officials, "we no longer believe this (turbo-prop) type of airplane can be counted on to do the job we now have in mind."

"What we're interested in as of now," he said, breaking the news gently, "is a look at what can be done in the way of a long-range bomber powered by pure jets."

Though the Air Force had said nothing to Boeing about its change of mind on power plants, and had let the company proceed with work on the turbo-prop airplane, the colonel now went on to tell Boeing officials

about a hot new jet engine being developed by Pratt & Whitney, the J-57.

New Airplane Just Like That

Some quizzical glances must have been exchanged by the Boeing men. For they already had talked with Pratt & Whitney about the J-57, and had even made certain suggestions that had been incorporated into the new engine.

"What can you do with this new engine in the way of a specific design?" the colonel asked.

"We'll come in Monday morning with a new airplane," a Boeing official said with a straight face.

On Monday, after a week of overhauling of their tentative designs of a jet-powered bomber and after some happy but furious recalculation of weight factors, the Boeing men were back in the colonel's office with a thirty-three-page loose-leaf volume of drawings of a bomber, not radically different from today's B-52. They had worked out not only the basic mathematical elements of the design, but engineering vice-president Ed Wells had whittled out a balsa wood model, which is displayed proudly today in the Boeing office in Seattle.

"This is it," exclaimed the colonel.

Projects in Millions Left to Echelons

It may seem surprising that officials of a big aircraft company should be dealing with an officer of colonel's rank and accepting his decision on a project of this importance. But the fact is that officers of even lesser rank—majors, captains and even lieutenants—are vested with liaison authority over multi-million-dollar aircraft projects. Under, of course, the brass in the Pentagon. That's one reason for the delay.

THIRD TIME SPAN (seven months)—One full year later the Air Force formally authorized Boeing to go ahead with engineering work on two prototypes of the jet bomber. The formal authorization had been preceded by informal approval from the Air Force.

During this period, the design switch from turbo-props to jet engines was being processed through the Pentagon mill that grinds out decisions in its own fashion. But Boeing, sensing that the matter probably was clinched, went ahead with the wooden mock-up that precedes construction of a flyable prototype and with the first of an innumerable diversity of engineering investigations.

And a good thing, too. The Truman administration was cracking down on defense expenditures and the military establishment was being pared to the bone. Boeing was forced to lay off 7,000 of its 30,000 employees in 1949.

In September, 1949, the Soviets exploded their first atomic bomb.

To Plan Problems

FOURTH TIME SPAN: Twenty-four to twenty-five months.—In the closing months of 1949, Washington tensely reviewed the nation's long-range bomber capability. But with the B-36 propeller-driven bomber at that time in full production, a government-retained consulting agency said this country could not stand the cost of an inventory of bombers as expensive as the B-52. Boeing had estimated for the government that a tentatively considered first production order of the bombers would cost \$15,000,000 each. (The first two B-52 prototype models cost a total of \$100,000,000. Production models delivered at the factory now cost \$6,000,000 each).

By this time, the U. S. S. R., now with an atomic bomb, probably was starting production of a jet intercontinental bomber capable of carrying the nuclear weapon to the United States.

While the first prototype of the new bomber, the XB-59, was being built under great difficulties and delays, especially with jet engines, more direful news

hit Washington. The Korean War started in June, 1950. By November, the Chinese Communists had enticed the war, and the long-range bomber issue became urgent—all the more so because the United States was embarked on the hydrogen bomb project.

The then Secretary of Air Force Thomas K. Finletter was convinced, moreover, that the Soviets were racing to make the hydrogen bomb. He called the haste in pushing the B-52 into production, even before the flight of the prototype. But budget officials cried, "Impossible! \$15,000,000 a plane to be too expensive for the United States."

In February, 1952, Secretary Finletter ordered thirteen production Model B-52s.

Output of B-52s

Seen Off Schedule

FIFTH TIME SPAN (about twenty-four months)—In 1952 Boeing flew the two B-52 prototypes, one in April and the other

...in March.
...the first production model
was rolled out of the plant.

THE PRESENT. — Today's production rate of B-52s is under military security. Sen. Stuart Symington, D., Mo., said in May that five or six B-52s were being turned out monthly. That rate has been increased since. It is doubtful, though, if B-52 output is up to the Air Force schedule of twenty a month, although Boeing officials told the Herald Tribune that they can turn out forty-six bombers monthly if ordered to do so by the government.

Whatever today's B-52 production output is temporarily—but seriously—off schedule at the moment because of a fuel system defect. This developed during flight operation on models delivered earlier. Boeing is making adjustments on B-52s on the production line to preclude defects.

...more than 100 B-52s since inception of the plane eleven years ago. And the Soviets are estimated to have produced possibly 200 intercontinental Bisons in the seven years since they are believed to have launched their long-range jet bomber program.

The third article in the series tomorrow tells how all basic de-